ART EXHIBITION CATALOGUES REPUBLISHED ON MICROFICHE

Published on microfiche by:

Chadwyck-Healey Ltd
20 Newmarket Road
Cambridge CB5 8DT
England

Somerset House
417 Maitland Avenue
Teaneck, NJ 07666
USA

Date of publication and production of master: 1978

Series: The purpose of this series is to make available those catalogues that have lasting interest through their text or their illustrations. Catalogues and cumulations of titles in the series are available from the publishers.

Serial numbers: Each title is identified by a three-part serial number. The first part of the serial number designates the sales list in which the title was first announced. The second part indicates the agent of publication, i.e. the museum, gallery or organisation that was responsible for the publication of the catalogue. The third part of the serial number is the number allotted to that title.

Copyright: The microfiche edition is the copyright of Chadwyck-Healey Ltd.

Location of original: Courtauld Institute of Art, 20 Portman Square, London.

Technical data:

Producing laboratory: Chadwyck-Healey Ltd.

ENAMEL

ENAMEL

An Historic Survey to the Present Day

THE COOPER UNION MUSEUM
FOR THE ARTS OF DECORATION

ACKNOWLEDGMENT

In assembling material for the exhibition, the Museum has received most helpful suggestions and information from the following, to whom are given most grateful thanks:

KENNETH FRANCIS BATES

LEOPOLD BLUMKA

PEGGY DE SALLE

MISS HELEN S. FOOTE

LÉON GRINBERG

MISS YVONNE HACKENBROCH

MATHIAS KOMOR

MRS. MARY LYON

AUGUSTUS PECK

FRANCIS W. ROBINSON

WALTER ROZALSKI

LAURENCE E. SCHMECKEBIER

SEYMOUR SLIVE

The apparatus used for the technical demonstrations has been provided through the courtesy of the Brooklyn Museum Art School.

The flock paper used in the cases was specially made for this exhibition by Piazza Prints, Inc.

Copyright 1934 by The Cooper Union Museum for the Arts of Decoration

54. P 698.

COOPER UNION INSTITUTE

INTRODUCTION

WE HAVE FORGOTTEN HOW MUCH BY CHANCE, by mishaps and runs of luck man was first induced to profit by the accidents that have filled his life with marvels. But the goddess Fortuna, discredited now and doubtless fretful at neglect, once manipulated the affairs of man with whimsical tyranny. In ages less insolent than ours, when daily we rifle doom as if it were a penny bank, her escapades were solemnly pondered; her gifts, good or hateful, were received with deference. With the exercise of reason man has rejected the troubling hints that his exploits may have had their beginnings in something other than intelligence.

Can we say that the arch, the pulley, the lever and the wheel were "invented," that some haphazard event, delivering the example, did not precede their application? Two walls fell together and joined in a curve; a vine grew around a branch; a stick once trod upon moved a stone; the rolling circle of a log called up a premonition of machines. Man does absolve himself of vainglory to the extent that the fortuitous is gathered in, understood, and regulated; to the extent that – never forgetting humility – he modifies occasion by his will.

The means by which the goddess brings about invention are so slight, so easily concealed, that her reward must often consist only of ironical pride, not uncolored by envy. For from her vagaries, transfigured and controlled, have come bronze and porcelain, glass of Venice and Amati's vibrant strings, the celestial hemispheres of Byzantium and the surging vaults of Chartres. An artisan, acting upon her vagaries, submits them to menial ends and remains her servant. But the artists seizes a mute device, and, by converting it into a speaking instrument, becomes the deity's master.

The artist's language need not be of words. It may transmit through melody or symbols, representation or form. Yet the requisite, if thought is to be discovered to another, is that the imagery must be a compact between equals; it cannot be wholly individual, hermetically contained, or separate from human sympathies. And art, in order to surpass accidental origins and expedient aims, must convey not only thought through order but feeling through elation. If art does not, if the artist wards off this excruciating duty and retreats, Fortuna laughs knowingly and applauds. For then art is again in her power, to endure or not so long as she determines, to end in fragments, discord and debris, without the immortality of soul that is the issue of travail defined.

When the argil is twirled between the palms and wound into pottery, something unites and remains with the clay, vivifying it and, for the potter

at least, responding, thereafter, as an ally. How much more identification there is, then, between an artist and his creation, compounded as it is with thought and instinct, technique and passion. It may even come about that the artist thinks of himself only as an intermediary between amorphous spirit and forged idea, as the hammer and anvil whose force and resistance give shape and substance to inspiration. Whether he is a materialist or a mystic, he who makes a thing with his hands, and whose hands are quickened by more than the life of muscle and bone, covets what he has made and would have it outlive him to celebrate his accomplished ambition. Man can survive himself in what he makes, if the yield delivers some tidings of the mind, some memory of feeling, which can be perceived by another, no matter how long after he may come. So the search for expression is merged with the search for some constant medium which will react to his pleasure and subsist as testament and triumph.

Of the media used to record pictorial ideas, none is more enduring than enamel. Tempera and fresco succumb to the infirmities of the panel and the wall, oil pigments crack and flake, even bronze corrodes. But the pulverized mixture of silica, borates, alkalis and metallic oxides which, heated on their base of gold, copper or silver, fuse into the hard, bright stuff we call enamel, will remain uncorrupted by moisture or most chemicals, and even by heat that would destroy completely a painting or a print. How and where it was discovered we do not know. Wherever there was glass, enamel was latent; where vitreous glazes were used on ceramics, the step from ceramic to metal base was only inappreciable. The Egyptians of the 18th Dynasty inlaid their faience with powdered glazes of different colors and refired the pottery so that the filling fused with the whole. Lapidaries of the Ptolemaic period fixed glass in fillets of gold and fused them into place, apparently with some sort of paste adhesive between the imitation gem and the base. Fragments of mosaic glass from Abydos and Tell el-Amarna, of the 18th or 19th Dynasty (Nos. 1, 2), and from Dendereh, of the Roman period (30 B.C.-364 A.D.) (Nos. 3-5) might be called "proto-enamels," for they show how vitreous material of different colors, though still employed as solid inlays, was melted together to be used in jewelry and decorated utensils.

One would think that the Egyptians and the Graeco-Romans, with their multifarious techniques and skills, would have hit upon the art of enameling on metal as a logical and deduced result of their treatment of glass. Yet their proficiency did not, apparently, lead them from one practise to another, as would be plausible were man's cunning as rational as he would like to believe. It is probable that enamel originated somewhere else than in the Mediterranean basin. The sophist Philostratus of Lemnos, writing about 240 A.D., informs us that "It is said that the barbarians of the outer sea pour

these colors into bronze moulds, that the colors become as hard as stone, preserving the designs." If such a craft had been common in Rome or Athens, it seems strange that it would have been worthy of remark. And would it not be more natural to suppose, since the first true enamels have been found on the outskirts, rather than at the center of the Roman world, in Britain, near Namur in Belgium, in the northern Caucasus and at Dura-Europos in Syria, that among the gifted outlanders enamel was revealed by chance? Perhaps some Celtic or Gaulish chieftain dropped a glass-encrusted brooch into the fire and took it to his smith to be repaired; the smith noticed that the glass had become attached to the metal, and began to experiment. Or some *vitrarius,* a provincial glass-maker, seeing how the pot-metal had adhered to the ladle, replaced cut stones with raw frit.

The technique, once having been found, must have spread with great rapidity among the peoples who dwelt on the edges of the empire, that enamels of relatively the same date (the 2nd and 3rd centuries A.D.) have been uncovered in areas as widely dispersed as the Valleys of the Meuse and the Euphrates may be an argument either for an unconnected, spontaneous origin, or for a peripheral commerce in this happy substitute for precious stones. But whatever the how and where and when, Roman Gaul, especially *Belgica,* was apparently one of the first and largest scenes of manufacture. There may have been economic reasons: northern Europe is poor in precious stones. Aside from amber, garnets, amethystine and rose quartz, agates and jet, there was little to be found in mines and creek-beds that would enrich the gold and bronze. The fibulae (Nos. 10, 11, 13) in which native stones or paste are set are rather somber; but let the cloisons be filled with enamel (Nos. 6-9, 12, 14, 15) and the colors flash into light green, yellow, red and blue.

The border peoples had their own aesthetic, very different in source and energy from that of classical antiquity. The forms of their jewelry, horse-trappings and utensils are at once massive and restless; lines and interlaces, animal and geometric figures coil and weave impatiently and asymmetrically across the decorative fields. Where glass or precious stones occur, they are used as bulky accents, with a crude yet stately grandeur. The enamel, then, this novel substitute, is first applied to emphasize the metallic form; it lends a prismatic inflection to the malleable base. But always with new media there comes a point in the wielding when what was secondary and tentative appropriates to itself a temperament, an independence of character, that works in turn upon the craftsman. He discerns, falteringly, but with increasing confidence, that the material makes its own demands; that, having been developed, it develops further as a sovereign being. It is at this point that the properties of the medium are given their privileges and are admitted to self-determination.

The paramount qualities of enamel, as distinct from other decorative pigments or materials, are its chromatic variety and its tactile and visual elegance. It is not a veneer or a gloss, for its depth and consolidation with the metal give it a lucid gravity that penetrates the form of which it is a part. Being vitreous, whether translucent or opaque, it absorbs and reflects light, so that underneath the superficial polish wells a profundity of radiation. Even when painted on the base, when its divisions are not conditioned by metal bands, enamel possesses a neatness, a limpidity of outline and body, that render it both strict and sumptuous. It is not a means for recording the impression or the reverie; once fused, the pigments are immutable; they must be placed and designed with a deliberation that, for an art, is close to science. *Champlevé* and *cloisonné* especially, though with cultivation both may become finical, still must comply with the habit ordained by the metal. And it is this premeditated unity of the two components, the fluxible color and the resistent ground, tempered in the kiln's heat to a serene and balanced fixity, which makes the enameler's art the eager accomplice of devotion.

Our western eyes suffer from a kind of historic astigmatism which even the lens of objectivity cannot wholly correct. We are still taught that Hellenic civilization was somehow demoralized and dispersed, to be restored and collected again by the humanists of the Renaissance. We look upon the glimmering residue of the Eastern Empire as something exotic, faintly vicious, paralyzed by ritual and unhealthy contemplation. Yet the civilization of Byzantium was a transposed Athens of the Periclean age, in which the same order, the same reduction to type and module took place on an inward plane. Its forms stood, not on sunlit promontories or in spring-fed groves, but within piles of masonry that enveloped spaces crowned with gold and azure, where the rhythms of mosaics, the measures of the liturgy turned the Greek intellect away from body and mind to the imponderables of the Holy Wisdom. The art evolved on the Bosphorus, in Georgia, Armenia, the Peloponnesus and Illyrium was perhaps the most calculated effort to make real on earth the mystic ecstacy of Christendom. All the disciplines and desires that drive the spirit, that can be echoed and enforced by color, distortion, cadence and power are distilled from the structure, and the hues and textures of Byzantine decoration. Thus the episodes of the Gospels (Nos. 17, 18, 19, Fig. 2, 21), the figures of saints (No. 23) and the Mother of God (Nos. 22, 26), contrived of cloisonné enamel to cover tabernacles and screens, are the pictorial agents of divine grace. The examples shown are perhaps a little less austere than those of first half of the Empire's span. They follow by several centuries the final resolution of the iconoclastic controversies in 843, the ferocious struggles between those who would ban images from the churches, and those who would maintain them. Saint Theodore of Studium (died 826), with a logic

wholly classic, ended the dispute by arguing that the image-breakers were heretics, since they denied an essential part of Christ's human nature, namely, that it could be represented graphically. The graphic representation of Christ in Majesty (No. 24) is less natural than supernatural: the enamel, the gold cloisons depict a figure whose robes and visage seem to diffuse the same intensity, now cooled and burnished, that united them in the fire – that synthesized, in religious ardor, the dictates of matter and salvation.

The Eastern Empire under the Comneni (1081-1204), the period of these pieces, saw the arrival of the Crusaders and the eventual capture of the capital. How the brawling fortune-hunters must have gaped at the wealth and sophistication of the Sacred Palace, where twenty thousand functionaries, all in their graded livery of dark blue, flame-red and gold, converged on the core of imperial purple! How they must have fidgeted at the unendingly supple gestures, the rites and formulae! With the contempt of the uncouth for the civilized, they roistered and passed on, jealous and greedy enough to return at last to sack the city in 1204. Yet the Crusaders were not entirely unimpressible. Those who made their way back to France and Germany retained recollections of techniques; they brought sacred loot as well, which with pious duplicity they donated for their souls' sakes to churches and monasteries. Byzantine enamels had now and then preceded them to the Carolingian and Ottonian courts of the Rhineland, where the cloisonné was crudely imitated. Emissaries such as Abbot Willibald of Stavelot in Belgium carried triptychs and reliquaries away as gifts. But the great refluence of the Crusades was responsible, more than anything else, for the appearance of enamel among the descendants of the Gauls and Franks.

Fostered by the enthusiasm for representation that followed the quarrels of iconoclasm, enameling had become one of the noblest arts of the Eastern Empire. Again fostered in the West by the religious intoxication of the 12th and 13th centuries, this same art enriched the shrines, bookcovers, candelabra and other ecclesiastical appointments with hues and textures they had never known before. But the enamel of the medieval West is a very different thing from that of Byzantium; the difference springs, not from any critical change in the substance, but from a dissimilarity of resources and attitudes. Byzantine enamel is almost entirely cloisonné, and wrought upon ductile precious metals, primarily gold. Though the mines of Saxony and Spain produced gold and silver in some quantity during the Middle Ages, these metals were never common enough to be used extensively by craftsmen. Copper and bronze there were: these will withstand the kiln's heat, but they cannot be plied with the same refinement or elaboration. There arose, then, the second special technique, that of champlevé, in which the pockets containing enamel have been cut or etched into the metal base. The earliest medieval champ-

levé enamels, influenced by Byzantine cloisonné, disclose narrow metal ridges between relatively large areas of enamel, as if the craftsman were more intent, at first, on producing a counterfeit of the style than on perfecting his own. Before long, however, the metal areas become bolder; the courage of acknowledged limitations demands that the less tractable copper shall be worked in its own way. This brings about, in turn, a perceptible alteration in the quality of the enamel. Not being over gold, which will not tarnish and reflects light, but over an easily oxidized metal, translucent enamel would have been dim and stagnant. Instead, the paste is opaque and slightly granular, as if to abet, with its solidity, the toughness of the base. Perhaps, too, proficient though they were, the western craftsmen did not enjoy the equipment, the furnaces and mortars needed to produce translucent enamel. Yet their intuitive sense of fitness must have told them that the colors and textures set into copper gilt should reciprocate with, and not antagonize the foundation.

An aesthetic, whether it be self-conscious or innate, must come not only out of material means but spiritual ends, and the spiritual ends of the Western Church had serious incompatibilities with those of Byzantium. Theological niceties aside, the distinction is that between the ethereal plenitude of the Holy Wisdom and the temporal verity of the Kingdom of God. The Western Church inherited the Latin administrative tradition, not the philosophy of Hellas. To worshippers it offered a spectacle and a redemption no less wondrous, but of an order less subjective and sophisticated; its forms are nature's in her role as witness to God's omnipresent love. These forms are meant to be looked *at* as divine evidence, not felt *through* as divine passion.

Along the Meuse, in the medieval principality of the bishops of Liège, two figures appeared in the 12th century who, seemingly without precursors, established the arts of metalworking and enameling on a level hitherto unknown. Both Renier and Godefroi, also called Godefroi de Claire, came from the town of Huy. The latter, before returning to the cloister of Neufmoustier in 1173, worked for the mighty Willibald of Stavelot, and was commissioned to make the shrine of St. Heribert for the Church of Deutz, on the Rhine-bank opposite Cologne. The enamels of Godefroi and his school (Nos. 27-31, Fig. 3) are characterized by brilliant yellows, blues and greens, with vigorous highlights of white. The colors are not separated by ribs, but have been juxtaposed with a quill before firing. Godefroi and his pupils doubtless proceeded according to the method laid down by the monk Theophilus, who may have been the Benedictine Roger, writing in the monastery of Helmershausen at the turn of the 11th and 12th centuries. His "De diversis artibus: seu diversarum artium schedula," or treatise "Upon

Sundry Arts: a Practical Compendium," in the fifty-fourth chapter of the third book, contains a detailed account of the means by which *electrum*, or enamel, is placed in cloisonné: ". . . take all kinds of glass which you had prepared for this work, and breaking a particle from each piece, place all the fragments together upon a piece of copper . . . and placing it in the fire . . . you will see whether they melt equally. Taking separate pieces of the proved glass, place them in the fire one by one, and when each one has become glowing, throw it into a copper vessel in which there is water, and it instantly flies into small fragments, which you break with a round pestle until made quite fine . . . taking a goose quill cut to a point, as if for writing but with a longer beak and not split, you take out with it one of the colors of glass, whichever you please." He also says that, "in antiquis aedificiis Paganorum" may be found mosaics and vases which are the best source of powder for enamel. Speaking, too, of the spiritual ends of his text, he exhorts the artist: "Animated, dearest son, by these covenants with the virtues, thou hast confidently approached the house of God, hast decorated with the utmost beauty ceilings or walls with various work, and, showing forth with different colors a likeness of the paradise of God, glowing with various flowers, and verdant with herbs and leaves, and cherishing the lives of the saints with crowns of various merit, thou hast, after a fashion, shown to beholders everything in creation praising God, its Creator, and hast caused them to proclaim him admirable in all his works."

The apostles (No. 31), the Old Testament priests (No. 30), and the theological virtues (Nos. 27, 29) of this Mosan work have about them a classical composure which seems to have been bequeathed by the origin of the enamel, which, though pagan, could still be turned without error to Christian use, for as Theophilus says, "Through the spirit of wisdom you know that all created things proceed from God, and that without him nothing exists."

The contacts of the Meuse and the Rhine with Byzantium, through personalities such as Bishop Notger of Liège, the Empress Theophano, Willibald of Stavelot and even Theophilus, who had once stood in the atrium of Hagia Sophia, were the source of the art of enameling in that territory, and the classic leaven of its style. Teutonic nationalism has made the Rhenish-Mosan region the cradle of enameling throughout Europe, just as Gallic nationalism has given the honor to the second center, the city of Limoges. Probably neither is justified. *Limovices* was, from the 4th century, the capital of a powerful and accomplished Gallic tribe. It housed the mints of the Merovingian kings, and, being on the road to St. James of Compostela, was open to all the itinerant influences of the pilgrimages, as well as to the trade in copper from Spain and the north. The Limousins had been metal-workers for centuries: the Gallic decorative tradition emerged again, once stimulated

by sensuous and religious need. In the ruins of the temples, theatres, baths and palaces were middens of glass fragments, easily crushed and smelted. And the enamelers were business-men. Between 1132, with the laying out of St. Denis by the Abbot Suger, and the end of the 13th century, Sens, Senlis, Noyon, Notre Dame de Paris, Laon, Soissons, Le Mans, Bourges, Chartres, Rheims, Amiens, Noyon, Coutances, Rouen, Strasbourg and Beauvais were building – an architectural proliferation unmatched in the western world. The cathedrals, and the monasteries and parish churches dependent on them needed ritual vessels (No. 47, Fig. 1), crosses (No. 45), caskets (Nos. 41-44), chalices, candelabra (No. 50), bowls (Nos. 48, 49), and other things. Out of the unprecedented demand came an unprecedented supply.

The stylistic evolution of medieval Limoges enamels is not easily condensed. In the 12th century the copper base, hatched and heavily gilded, supports medallions, figures and conventionalized designs in enamel – an echo of Byzantine format. The enameling is severely restricted to the pictorialized form, without adjacent or alleviating ornament. Between 1180 and 1220 the base is elaborated with a schematic foliate design between the figures; these pieces are termed *à fond vermiculé* (Nos. 41, 44). Toward the end of the 12th century, another type appears, in which the gilded base is heavily cross-hatched into a fine network of lozenges; somewhat later the base is stamped with geometric patterns. About 1200 a transposition takes place: the base is enameled instead, and the figures are reserved or set in relief against it (No. 42). There may have been emotional and theological reasons for this change. The same occurs in architecture, as the sculptured decoration, applied as a subordinate part of the mass, cuts itself free and uses the architectural form as an abstract setting for its drama, as the logic of scholasticism was the sturdy trellis upon which climbed the luxuriant herbage of medieval life.

With the gold rubbed from the ground, and colors often damaged by abuse, we may disdain all but the least marred of the Limoges enamels. Yet the pigments used were a cause of great risk and rivalry. Blue was obtained from oxide of cobalt, often found in conjunction with cuprous deposits; with traces of nickel, chrome and manganese it varies to grayish, greenish or violet. Opaque white came from lead and Cornish tin calcined together; red the enamelers obtained from lead and cuprous oxide, or from the alchemists' "Purple of Cassius," the precipitate formed when gold, dissolved in *aqua regia,* is treated with stannous chloride. We know very little of the traders who carried these minerals over the Pyrenees, or from the Black Sea up the Danube and across into the west, of the expeditions that took years for the journey, that glass might be ground with the oxides between marble millstones, or in agate mortars, to become the splendid rosette-filled back-

grounds of caskets and crucifixes. The making of medieval Limoges enamels was a commercial undertaking; the ateliers went about their task with an impersonal organization which has left us devoid of particular names, and insecure as regards the causes of the shifts of mood which led to innovations. The art of these productions is therefore absorbed collectively from the great reservoir of medieval life. Individuals as we conceive of them, human beings whose portion should be to round out, of their own free will, their most peculiar and exclusive talents, were absent from society. Instead, the human being, whether serf or sculptor, scribe or priest, shared in a corporate organism that had, as its principle, the coalescence of nature and theology, to the end that each might minister to the other as confirmation of the glory of God. So too, the tendrils of metal and the enamel between them, the lozenges and circles that environ the figures as a star-laden sky environs the world, are illustrations of the medieval harmony.

The exact time at which an epoch, having reached integration, begins to lapse, at which seeds formerly quiescent begin to swell and grow, cannot be fixed categorically, for in the vital process – and no less in the supervital process of art – advance and decadence are contingent on each other. By the end of the 13th century the equilibrium of the Middle Ages is fragile if not yet disturbed; a preoccupation with refinement supersedes. Richness, and the sensuous excitement of flashing substances, imbue the arts. Enamel is recast again, this time in a way which will mirror the expanding sensations of the artist. Vasari tells us, in his "Introduzione alle tre arti del disegno," that Giovanni Pisano was commissioned, in 1286, to provide the cathedral in Arezzo with an altar covered with mosaics and enamels on plates of silver. This is the first dated reference we have to *basse-taille*, the third technique, in which translucent enamel is fused over silver or gold carved or chased in relief. Italy may have been its birthplace, or it may have arisen elsewhere simultaneously, out of conditions natural to the workshops. Pieces appear in different parts of Europe almost immediately: the reliquary from Lichtenthal in Baden, now in the Pierpont Morgan Library, is probably not more than a decade younger than Giovanni Pisano's now destroyed work. Basse-taille gives to enamel an unwonted plasticity and opulence: figures and decorative patterns can be worked in the ground with the minuteness of an engraving; successive firings, which will gravitate the enamel into the deepest concavities, produce shadows and highlights, near-opacities and glazes, which scintillate and waver above and beneath (Nos. 62, 67, 78). As against the balanced stability of Limoges champlevé, basse-taille is the enamel of motion, of flamboyance and agitation. It serves for decoration, both secular and ecclesiastical, where beauty of appearance is an end in itself.

At this juncture enamel (as with other media) becomes the vehicle of a

fine art rather than a craft. The distinction is troublesome. To say that those who filled the treasuries of Byzantium and Cluny with masterpieces were somehow less alive to impressions, less ingenious and generative than those who followed would be to underestimate their talents. Yet, in the intercourse between maker and material which goes on in any workmanship, a turning point is ultimately reached. The substance becomes so responsive to the character pressed upon it, and the artificer becomes so appreciative of his intentions as they are registered, that the creation assumes an intimacy incapable of duplication or collective execution, and the maker pays homage to himself and the deed. The onlooker, also, pays homage to this private deed as something absolute, and to the maker as one marked and set apart. So the concept prevails that each artist's relation to the world is matchless, that what the artist does is to be valued for its fidelity to his superior vision. Symbols and patterns decline; particulars, both in nature and the human, multiply the means by which the artist expresses his affections, and the interpretation of mankind by man wins through.

Such was the persuasion of the Renaissance — a persuasion the west has never lost. We paraphrase the Renaissance as the rediscovery of classical antiquity, a misapprehension which ignores cause and effect. Classical antiquity was never invisible, save to eyes blinded by the medieval order of things. When, through the intuitive search for solutions, the aspects of man became more urgent than the aspects of the Kingdom of God, Graeco-Roman modes revived. They were never more than an accompaniment to the main theme, which was humanism in the largest sense: the learning, the exhilaration, the amusement and suffering which can be man's when he beholds himself and his senses through the eyes of his own experience. Subject-matter appropriate to this commentary is introduced, and we deal with artists, names, personalities and individual devices, rather than with anonymous chattels of the faith.

Before taking up the pictorial tradition as it resulted from the humanistic idea, it would be well to treat briefly certain other techniques and locales. The rare examples of Hispano-Moresque work (Nos. 55, 58) display the champlevé and cloisonné techniques, with a configuration of abstract and denaturalized elements repeated over the surface. In medieval Spanish champlevé enamel, probably practiced by artisans trained in, or in contact with Limoges, the figures (Nos. 56, 57) are less homogenous than their French counterparts, and there is a distinct partiality for the metal over the enamel. Attendant on the studied extension of technique at the beginning of the 14th century, two more methods of enameling arrive. One is *plique-à-jour* ("open braid"), in which the base has disappeared entirely, the translucent enamel being held solely by the filigree separating each segment from the

other. Fabrication of plique-à-jour enamels, whether originating in Italy or France, was the consequence of scientific progress. Alchemists, though often frauds, were sometimes reasonable: their theory that metals might be transmuted into gold if only the *scoria,* the dross, were refined away led to the discovery of acids, especially nitric acid, obtained by the late 13th century mystic Raimon Lull by burning nitre and clay. The gold filigree could be soldered to a copper base, filled with enamel, fused, and then placed in an acid bath which ate the base away; if the work was entirely of copper, those parts to be left intact were painted with asphalt. The extreme fragility of plique-à-jour pieces, which are in effect stained glass utensils, has limited our examples to modern work (Nos. 157, 163, 219, 220). Enameling on glass, using a very hard glass of high silica content as the base, and soft enamels (those with a high percentage of borax), probably first appeared in Tuscany, where the deposits of boracic acid in the marshes had been mined since ancient times. Actually, *verre fixé* or *verre églomisé* as it is called, can be included among enamels only by courtesy, and to the extent that the frit painted upon the back, often with the addition of gold, has been fused. The product is not unlike that of a very delicate basse-taille, radiant and full of detail (No. 60). The last of these elaborations, to be found almost solely in France in the second half of the 16th century, is enamel *en résille* (No. 103). The decoration, which is derived from the engravings of ornaments by Etienne Delaune (1519-1583), was cut into rock crystal or hard glass; the intaglio was then tamped with gold, into which additional cavities for the enamel were drilled. The whole was fused, and backed with metal foil tinted black or dark blue.

Though adornment of the person with jewelry, as a token of caste, for magical defense against evils of all kinds, or as sheer magnificence, has been common to all races and periods, the Renaissance promoted the jeweler's art beyond any precedent. There were wealth to be paraded and personages to be puffed up. But the first determinant was that jewelry, expressly commissioned by the patron, not only allowed the artist the widest play of his deftness in combining techniques, but provided the customer with the opportunity for joining (if only vicariously) in the industry. To have empowered an artist to create was, to the humanistic mind, barely secondary to the act of creation. Renaissance jewels (Nos. 71-76) are surprisingly international in character: they are very seldom signed, and the motifs — mythological, allegorical or formally decorative — travelled with the goldsmiths from court to court, from Florence to Vienna, to Blois and the free imperial cities of the north. The pieces often combine exquisitely realistic subjects in opaque and translucent enamel with some abnormal article such as a blister or baroque pearl (No. 74), in which the subdued iridescence of the gem, forming a cloud,

or the body of an animal or bird, supplements the lustre of the enamel. "Venetian" enamel (Nos. 65, Fig. 4, 66), so-called despite the absence of any genuine data that Venice was its place of manufacture, completes the minor Renaissance types. This variety is largely confined to domestic gear. The oriental shapes employed argue for Venice, which was the preëminent gateway to the East, and in 16th century inventories it is designated "email turquie." The copper ground is entirely covered with enamel in blue, green and red, with large areas of white, the whole overlaid with stars, oak leaves and fronds of ferns in gold. The pieces must have come from one, or at most a few related workshops; appearing in the second half of the 15th century, it disappears after 1550.

Now for the second time Limoges lays claim to primacy in the history of enamel. In the Middle Ages, "Limoges" is a synonym for champlevé; in the Renaissance, it denotes a fresh and unconventional type, that of a pictorial statement fired on a copper base first covered on both sides with opaque white enamel, constituting a ground no different from the panel or canvas of a painter. Again the origin is unclear. The innovation has been ascribed to the influence of late-15th century glass painting, and to the desire to imitate on copper the lucent effect of Italian basse-taille. The initial attempts were made, apparently, by modest craftsmen about 1470 or 1480. If one may increase speculation with surmises, a partial answer may be found in those mysterious factors, taste and demand, actuated by long-range political events. The production of medieval Limoges enamels was a commercial undertaking; its products were largely at the disposal of the Church. Between 1483, when Louis XI, the "universal spider," died, and 1515, the accession of Francis I, two facts may be taken into account. One was the issuance of edicts by Louis XI restricting the rank of guild-master to certain privileged families. The other was the ascent, despite wars and ruinous taxes, of a bourgeois artisan class whose function was to embellish the broadened and secular artistic horizon of the nobility. Thus the humanistic pictorial temperament, already wholly matured in Italy and Flanders, passed into France at the service of an established profession which, without abandoning its materials, could emulate the compositions of more sophisticated lands beyond the frontier.

The founder of the first prominent family of Limoges enamelers was Léonard, or Nardon Pénicaud, active between 1503 and 1539 (No. 82). Nardon's brother or nephew, Jean I Pénicaud, working between 1510 and about 1555, advanced the art with colors that are forceful and even violent: violet shadows underline the physical structure of the faces, the blues are full-toned, the greens dense, and lines of gold add their glow (No. 83, Fig. 8). Jean II Pénicaud, thought to be the son of Nardon, was probably the same

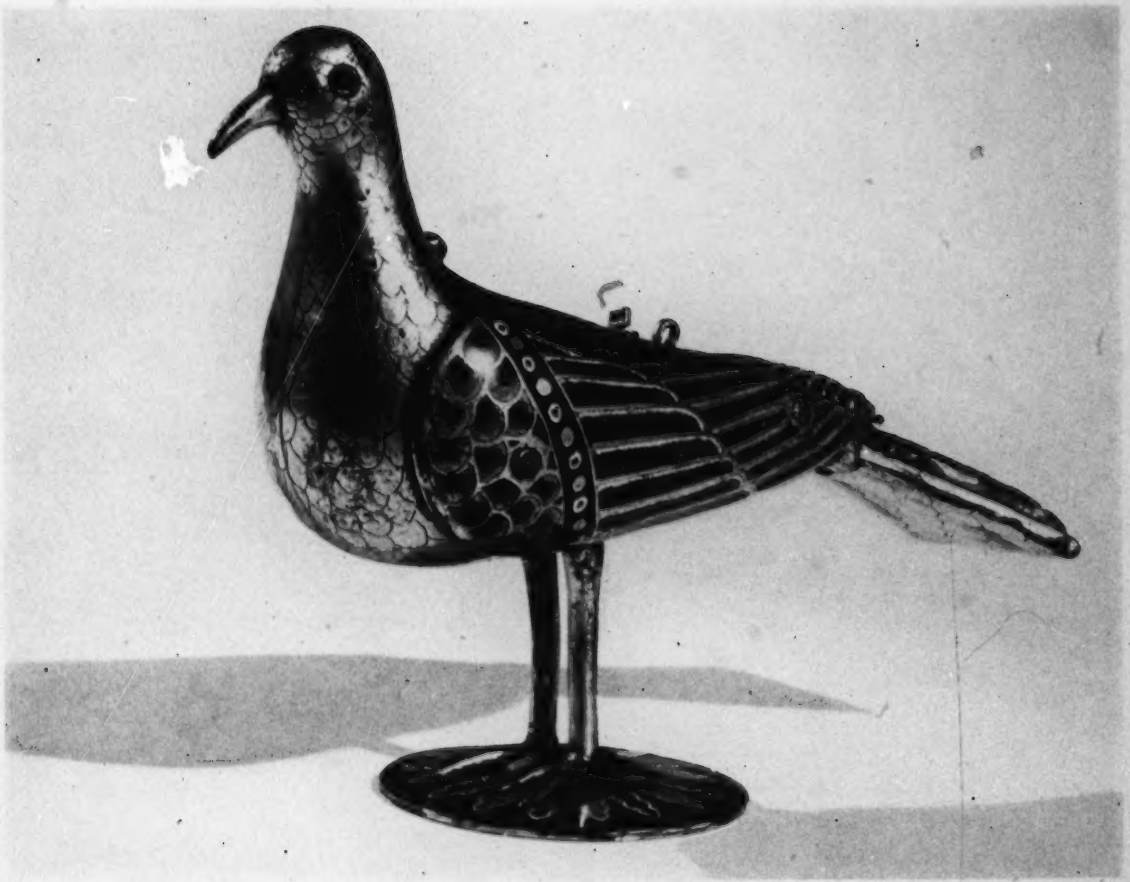

FIG. 1. EUCHARISTIC DOVE: champlevé enamel, copper and bronze-gilt
Limoges, France; 1250-1275
Lent by Leopold Blumka

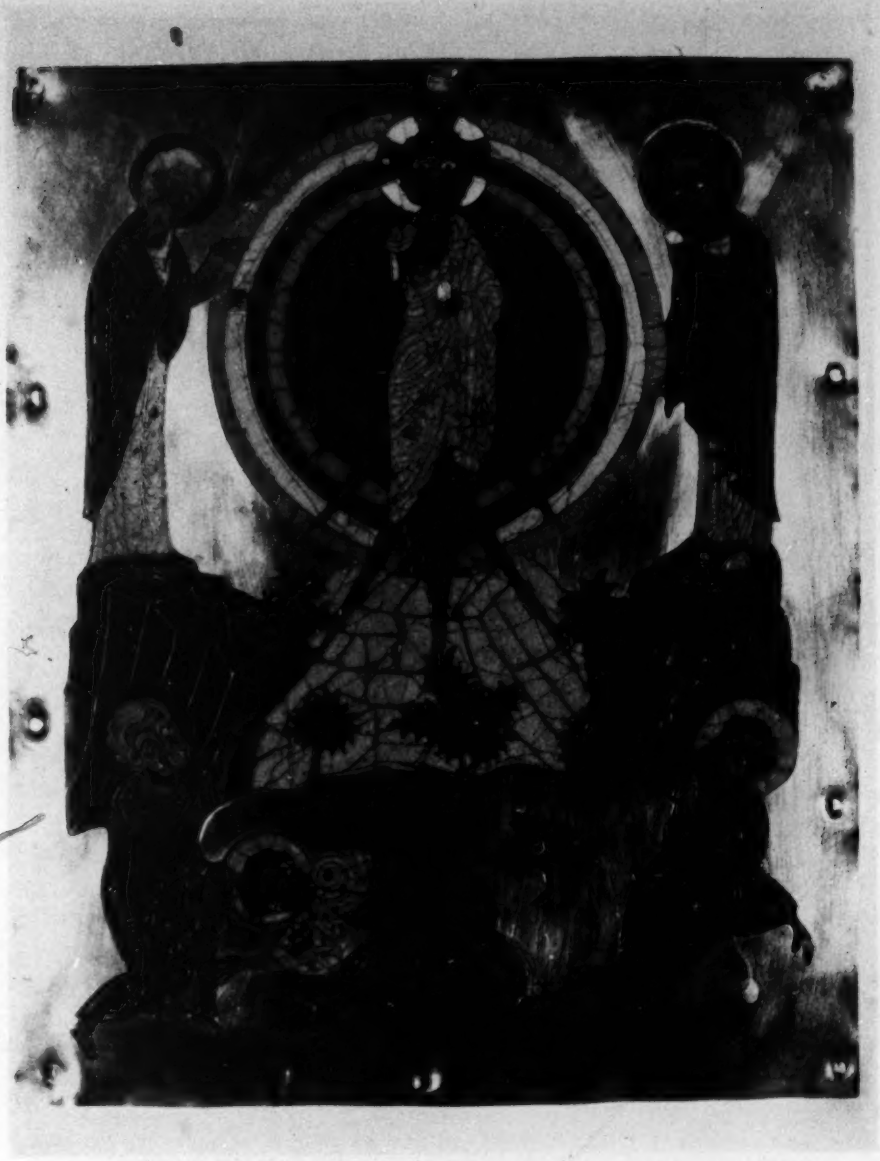

Fig. 2. The Transfiguration; cloisonné enamel and gold
Georgia, Byzantine Empire; 12th century
Lent by The Detroit Institute of Arts

FIG. 3. RELIQUARY; champlevé enamel, semi-precious stones, and copper-gilt;
Valley of the Meuse, Germany; about 1150
Lent by The Cleveland Museum of Art, J. H. Wade Collection

FIG. 4. CUP and COVER; painted enamel on copper
Venice, Italy; late 15th - early 16th century
Lent by The Art Institute of Chicago

FIG. 5. HSIANG LU, Incense Burner: cloisonné and champlevé enamel, copper and bronze
Probably Peiping, China: Hsüan-Tê: 1425-1435
Lent by Ralph M. Chait

FIG. 6. Alderman Stephen Theodore Janssen, as Lord Mayor of London: Miniature portrait on copper
York House, Battersea, England: 1754
Lent by Irwin Untermyer

Fig. 7. Wall Cross, scenes from the Life of Christ; painted enamel on copper
Karl Drerup, (1904-); Campton, New Hampshire, U. S. A., 1953
Lent by the Artist

Fig. 8. Triptych, Nativity, Gabriel, and The Virgin; painted enamel on copper, bronze-gilt
Jean I. Penicaud, (fl. 1510-1540); Limoges, France; early 16th century
Lent by the Philadelphia Museum of Art

Jean Pénicaud who was called to Bordeaux in 1564, in company with Léonard Limousin, to execute decorations for the triumphal entry of Charles IX and Catharine de' Medici. With him there begins a significant, and intrinsically contradictory application of white opaque enamel over a black ground, known by the same term used in painting, *grisaille* (No. 84). It is contradictory because, though the result may be stunning in a gloomy way, it negates the indwelling property of the medium, the stabilization of color. Though the works of the Pénicaud atelier (Nos. 85, 86, 87) do not succumb to grisaille forthwith, the method becomes more and more important. Jean II Pénicaud is noteworthy also as the artist who repudiated any lingering medieval motifs, either of subject-matter or demeanor: with him the Renaissance in French enamels stands free. Another representative of the humanistic current is the nameless artist who, during the first third of the 16th century, produced a quantity of plaques (No. 97) of scenes from Virgil's Aeneid, derived from woodcuts printed by Johann Grüninger of Strasbourg in 1502. These, with their amber-colored soil, bright green foliage and grisaille figures, are perhaps the most attractive examples of these era of transitional illustration. Of all Limoges enamelers the most renowned was Léonard Limousin, the innkeeper's son who, by 1548, was able to sign his works with the stately inscription "esmailleur, peinctre, valet de chambre du Roy." Born about 1505, his style evolved under the influence of German prints, especially those of Dürer, but he turned to Italian engravings after Raphael and then to the eclectic eroticism of the School of Fontainebleau. Francis I, ever alert and liberal where art was concerned, commissioned him in 1545 to make twelve plaques of the apostles, now in the church of St. Pierre at Chartres. As valet de chambre he was all but knighted, and had free access to the designs, as well as the celebrities, current at the court. His technique, a blend of incisive draughtsmanship, luscious color, and a sensuous rendition of flesh tones, is a sure transcript of the carnality and shrewdness which reigned with Francis I and Henry II. Two later members of the family, Jean Limousin, born about 1561 and still living in 1646, and François, who died about 1646, probably a nephew and grand-nephew respectively, continued among others to produce portraits and mythological scenes (Nos. 89, 90).

Pierre Reymond is the last impressive figure of this extraordinary rehabilitation of the art. Born about 1513, he was twice consul in Limoges (1560 and 1567), dying shortly after 1584. As a contrast to Léonard Limousin the self-made aristocrat, Pierre Reymond is the flourishing wholesale decorator, with a host of busy underlings and a clientele as smart and well-to-do as the Tucher of Nuremberg. Grisaille relieved by light blues, greens and yellows adapts both decorative and pictorial motifs from Italian, French and German print-makers: Etienne Delaune, Thielmann Kerver, Virgil Solis,

and Holbein (Nos. 91-94). The mercantile fecundity of Pierre Reymond contained its own decay, which was speeded by the preferment, after 1594, of Paris as a royal residence, and the migration of artists to the court. By the beginning of the 17th century the white ground used by Léonard Limousin in his portraits became the field of painting *on,* rather than *in* enamel, by miniaturists using pigments of pure metallic oxides suspended in flux and fused on the enamel base. The snuff boxes, chatelaines, portraits and small plaques of the 18th century (Nos. 109-113) are all in this medium, which any painter, given a little practice, can control. Microscopically fine and winning though they may be, their quality is no different from that of a miniature on porcelain or ivory; the inconsistency begun with grisaille is complete.

Pierre Reymond's popularity in Germany is a clue to the style espoused there, as well as to the persistent influence of foreign styles. Indeed, the Renaissance in Germany is even more of a mélange than elsewhere, but it is suffused by an oddly national characteristic, an inclination toward naturalism combined with extravagance. Primarily a material subordinated, by the goldsmith, to the metal, enamel is used either to stress forms already three-dimensional (Nos. 121, 123) or as an incrustation (Nos. 114, 115, 118, 119) which is plastically handled in the manner of porcelain or wax. Painted enamels of both the types mentioned above do exist (Nos. 116-129); the choicest of painting *on* enamel is that produced in Saxony, mostly in Dresden, and in Augsburg and Berlin. The Froméry workshop, in Berlin, specialized in raised gold work on a white background (No. 126).

Renaissance humanism, temporarily discountenanced by the hostilities of Reformation and Counter-Reformation, has since prospered with a success not altogether steady. The abundance of stimuli supplied by the world to man, when man is his own arbiter and norm, are so diverse – and even discordant – that true singleness of style or intention is unattainable: freedom and unity are foes. And when man uses materials as mere conveniences of personal expression, overriding their traits for the sake of his own, the materials languish. Thus in the early 17th century, when enamel became a mere point of departure for graphic representation, its interior structure disintegrated. It became, for a time, a sort of utilitarian cosmetic: bright, superficially convincing, tenacious if not mistreated – but secretive of the character beneath.

This is best seen in England. The "Surrey" enamels of the second half of the 17th century (Nos. 130, 131) are household articles of cast brass, the cavities filled with simple opaque colors which, though shallow, interplay with the metal. But with the establishment of the enamel works at York House, Battersea, by Stephen Theodore Janssen (No. 132, Fig. 6) about 1750,

an enterprise ending in bankruptcy after six years, the commercial production of enameled copper boxes decorated with transfer-prints made from engravings reduced the medium at once to a substructional state. Concomitantly, in the Midlands towns of Bilston, Wednesbury and Birmingham, an almost over-plentiful production of snuff-boxes, tea-caddies, canisters, thimble-cases and other objects (Nos. 135, 136-138, 141, 143-145) sprang up, exhibiting lustrous ground colors, fantastic rococo cartouches of flowers and scrollwork, and fine gilding. The South Staffordshire productions are, in effect, the bourgeois Limoges of rational romanticism. Continental work (Nos. 146-150), more directly under the influence of France, and with a stubborn tradition of craftsmanship, continued the fabrication of bagatelles, miniatures and utensils.

It would seem that the dominion of the Russian Orthodox Church would have been the citadel of the Byzantine in Europe; in painting this was true, but Russian enamels, perhaps because of an underlying strain from the Wandering Peoples, lean toward the West. Ivan IV (1535-1584), "The Terrible," subsidized wholesale migrations of western craftsmen. Technically, Persia had its say, examples from the Near East (Nos. 167, 168) being a stock-in-trade with merchant families, especially the Stroganovs. Both champlevé and cloisonné were used, with patterns of arabesques, diapers, sharply pointed leaves and pearled borders. Cloisons of twisted wire and a minute filigree, called *skan,* were typical. Such an association of styles could hardly be expected to result in coherence, yet the "Muscovite" enamels (Nos. 154, 155) have a totality of effect that comes from exuberance of feeling and sensuous frankness. In the hands of masters backed by the immeasurable wealth of the Imperial court, this same sensuous candour, appealing through every stratagem of skill and rarity, surpasses itself in the work of Peter Carl Fabergé (Nos. 164-166). In the history of enamel the Russian imperial pieces are curiosities. Commercially manufactured, they are never gross. Useless, save as costly distractions, the medium is never degraded by mannerism. The simplest seal is exquisite, and the most intricate toy is understandable. Baubles they may be, but with an esteem for the alliance of means and ends which eclipses their frivolity (Nos. 157, 158, 161-163).

A continuity born of fatalism, and a conventionality that springs from philosophical contempt for material progress, are the marks of the Orient, though within the Orient styles differ as fundamentally as in the West. In India, the stronghold of the precious stones counterfeited, in Europe, by glass, enamel was used to contrive a flashing background for the more brilliant gems (Nos. 169-173). In China, the inventiveness associated with bronze-casting and movable type did not extend to enamels. "Fa lan," the word for enamel, is perhaps derived from "fo lin," the name for the Byzantine

Empire. In the *Ko ku yao lun*, a book on antiquities published in 1387, it says that "in the present day a number of natives of the provinces of Yunnan have established factories in the capital (Peking) where the wine-cups are made which are commonly known as 'inlaid' work of the devil's country." This would be cloisonné or champlevé enamel, becoming prevalent in the first decades of the Ming Dynasty (1368-1644). Perhaps the art was introduced over the silk routes, or by the random ambassadors and missionaries who blundered in. Once available, the technique was adeptly imitated: floral and symbolic patterns of great suavity and verve enrich the bronze (No. 174, Fig. 5, Nos. 175-178, 182, 184, 185). As in the golden age of medieval Limoges, the enamel is always bounded by, and enhances, the containing figure of the metal. The "chinoiserie" of Europe was paralleled, in China, by a kind of fashionable occidentalism. Jesuit missionaries, commencing with Matteo Ricci, who arrived in Peking in 1601, imported western art, and Father Attiret, a Frenchman, is said to have tried to paint in a manner combining Chinese and European styles. The painted enamels (Nos. 179, 180, 181, 183, 188) made in Peking, Canton and Swatow, of the 18th century, are either pictorial in the western sense, or formally decorative: they have a smoothness and softness due to the composition of the applied colors being of precisely the same nature as the ground, so that both are incorporated.

Our first concern, the Occident, suffered, at the onset of the 19th century, a benevolent blight which, for all its remedial measures, it has not yet learned to control, much less cure. The machine, from the turbine to the potato-peeler, has spread a harvest of advantages, and wrought havoc among those who would form communicative images with their hands. The artist, on one side, loath to contaminate himself by contact with so impersonal an apparatus, became more and more aloof, and looked either backward to the masters or inward to his isolated fantasy. The craftsman, when not a mechanic, became equally unsociable, with the additional obstacle that his designs were determined, not by an evolution, but by eclecticism. The result was an international anonymity without popular roots or aristocratic discrimination. Enamel, that firmest phoenix among the arts, seemed to have burnt itself out among the bijoux (Nos. 197-200, 204-210, 212-214.)

Yet expression, and specifically expression that consists of the trial of media that are not facile, that do not effortlessly dispose themselves to flaccid impulses – this expression will at length break through. It may start again from faulty notions, such as the one that craft, *per se*, is estimable (Nos. 215-218), and that what is said is irrelevant so long as the saying has been manual. But the force that lies within material, once loosed (no matter how) will summon up the energies to control it. Thus at the present time, when

the precariousness of our station becomes insufferable, there is a need for fixing unalterably in form the reflections that have transmissible meaning. This is not to be done by chance, by the accident masquerading as decision, least of all in a medium that should be learned, prepared, watched and finished by one human being. So enamel has been reinstated among the decorative arts (Nos. 221, 222, 226-241, 242, Fig. 7, 243-250). The outcome of chance, yet the most deliberate of media, the fusion of enamel can melt together artist and beholder, structure and idea, in a bond as sustaining as the icons of Byzantium or the triptychs of Limoges.

EVERETT P. LESLEY, JR.

A SHORT GLOSSARY OF ENAMELING TECHNIQUES

BASSE-TAILLE (*low-cut*). A combined technique. A low relief, usually in silver or gold, is flooded with translucent enamel. This enhances the plastic effect and adds color, the enamel being thickest where the cutting is deepest.

Perfected and practiced primarily in Italy in the 14th century (Nos. 62, 67, 78).

CHAMPLEVÉ (*raised field*). The piece is engraved to receive the enamel (No. 41). The areas cut are filled with enamel and fired until the enameled field is raised flush with the reserved metal. The whole is polished and the metal usually gilt and burnished.

Perfected in the Valleys of the Meuse and the Rhine in the 12th century (Nos. 27, 29, 31, 35), and in France at Limoges (Nos. 39, 42, 47, 48).

CLOISONNÉ (*separated, partitioned*). A technique which probably antedates the discovery of enamel and was used as a fastening for precious and semi-precious stones.

Cloisons, or ribbon-like strips of metal, are fastened edgewise to a metal base. The areas outlined are filled with enamel, sometimes above the edge of the cloisons. After the last firing the piece is polished until the design of the cloisons is apparent and the surface is smooth.

Perfected in the Byzantine Empire in the 12th century (Nos. 16-26), though rare earlier and less sophisticated examples may be found in western Europe. Cloisonné was introduced into China probably in the 14th century, and into Japan afterwards (Nos. 174, 192). Pieces are still made in the Orient, usually with technical proficiency but of varying artistic interest.

ENAMEL. A vitreous substance similar to glass, colored by the addition of metallic oxides and fused on a metal surface. Enamels are opaque, translucent or a combination of these which is semi-translucent or opalescent.

ENCRUSTED. Almost exclusively a goldsmith's technique. Enamel is used relatively thickly to cover and model small figures of gold (Nos. 70, 72, 74). Jewelry and small precious objects are enriched with this kind of enamel.

Encrusted enamel is found from the 16th century in Europe (Nos. 71, 73, 75, 79) and India (Nos. 169, 171, 172, 173).

EN PLEIN (*in full, complete*). A finish rather than a technique. The entire surface of the piece, or the larger part, is covered with enamel, usually translucent, of high finish. The extreme smoothness of surface makes this method particularly appropriate for small objects that are to be handled.

Perfected in Europe in the 18th century and made up to the present (Nos. 134, 142, 165, 195).

EN RÉSILLE (*in network*). A goldsmith's technique, similar to champlevé but in smaller

scale. The piece to be enameled, usually rock crystal or hard glass, is engraved with the design. The design is filled with gold and the cavities, to contain enamel of low fusing point, are drilled out.

The technique, perfected in the 16th century, is rare (No. 103).

PAINTED. In this technique a sheet of metal, usually copper, is slightly domed. Both sides receive coats of enamel; that on the concave, or reverse, is called the counter enamel. The convex side is painted in colored or grisaille enamels. Grisaille requires a complicated method of painting several layers of white opaque enamel on a black ground. The degree of grayness is achieved by the amount black ground permitted to show through the white. Each application of enamel must be fired at a lower temperature than the preceding one or the earlier painting is destroyed. Grisaille and colored enamel are often found on the same piece.

Perfected in France in the 16th century and used for portraits, plaques (Nos. 85, 91, 92), and religious (No. 83) and domestic articles *de grande luxe* (Nos. 87, 90, 93, 94, 95).

Miniature paintings and portraits of the 17th and subsequent centuries are not enamel painting. While the painting is done *on* enamel, it is not done *in* enamel but in fusible pigments, usually raw metallic oxides with a little flux, and fused to the prepared enameled plaque (Nos. 112, 128, 136, 139).

Transfer printing is a variant of the miniature technique. A printed design is transferred to the prepared enamel surface, colored and fired (Nos. 113, 132, 135).

PLIQUE-À-JOUR (*open braid*). Two general types of this technique are known; translucent enamel is used in both. One is a variant of cloisonné. Here the cloisons are fastened to themselves only and not to the ground, which may be mica or a non-fusible expendable material. After firing, the ground is removed, leaving only the enamel and the cloisons. The effect may be compared with that of a stained glass window. Occasionally wire is used in place of cloisons (No. 163). In the second type proportionately less enamel is used; it fills holes worked in a solid metal piece.

Mention of plique-à-jour work is found in France from the 14th century but few early examples exist. It was most popular in Russia and from the 17th century (Nos. 157, 161, 162, 219).

WILLIAM OSMUN

CATALOGUE

(The numbers set in parentheses after the descriptions of the objects refer to the owners of the objects, as shown in the list of Contributors to the Exhibition on page 28.)

PROTO-ENAMEL

1. Nine fragments of pressed thread glass; Tell el-Amarna, Egypt; 18th Dynasty (34)
2. Mosaic glass, fragment; Abydos, Egypt; 18th or 19th Dynasty (34)
3. Striped mosaic glass; Dendereh, Egypt; Roman period, 30 B.C.-364 A.D. (34)
4. Mosaic glass with lotus bud; Dendereh, Egypt; Roman period, 30 B.C.-364 A.D. (34)
5. Two pieces of mosaic glass with rosettes; Dendereh, Egypt; Roman period, 30 B.C.-364 A.D. (34)

THE FIRST MILLENNIUM

6. Five ornaments; champlevé enamel and bronze; Gaul; 2nd-3rd century (10), J. H. Wade Collection
7. Round fibula; champlevé enamel and bronze; Gaul; 3rd-4th century (38)
8. Wheel fibula; champlevé with bronze; Gaul; 3rd-4th century (38)
9. Round fibula; champlevé enamel and bronze; Gaul; 4th-5th century (29)
10. Buckle and tongue; cloisonné paste and bronze; North Gaul; 6th century (24)

11. Pair round fibulae; cloisonné glass and silver-gilt; North Gaul; 6th century (24)
12. Round fibula; cloisonné enamel and bronze; partly gilt; North Gaul; 6th century (24)
13. Round fibula; cloisonné paste and silver; North Gaul; second half 6th century (24)
14. Annular pin; inlaid enamel and bronze; Ireland; 8th-9th century (24)
15. Buckle; champlevé enamel and gold; Lombardy, Italy; 6th-10th century (38)

12TH CENTURY: BYZANTINE EMPIRE

16. Three fragments; cloisonné enamel and gold (24)
17. "Entry into Jerusalem," plaque; cloisonné enamel and gold; Georgia (5)
18. "The Baptism of Christ," plaque; cloisonné enamel and gold; Georgia (13)
19. "The Transfiguration," plaque; cloisonné enamel and gold; Georgia (13)
20. "The Mother of God," plaque; cloisonné enamel and gold; Georgia (31)
21. "The Crucifixion," plaque; cloisonné enamel and gold; Georgia (31)
22. "The Mother of God," plaque; cloisonné enamel and gold; Georgia (31)
23. "St. James," plaque; cloisonné enamel and gold; Georgia (31)
24. "Christ in Majesty," plaque; cloisonné enamel and gold; Georgia (31)
25. Double Cross with the Four Evangelists; cloisonné enamel and gold; Georgia (31)
26. "The Mother of God," plaque; cloisonné enamel and gold; Georgia (42)

12TH-14TH CENTURY: GERMANY

27. Reliquary; champlevé enamel, semi-precious stones and copper-gilt; Valley of the Meuse; about 1150 (10), J. H. Wade Collection
28. Plaque, probably from a shrine; champlevé and cloisonné enamel and copper-gilt; Valley of the Meuse; about 1150 (9)
29. "Hope," plaque; champlevé enamel and copper-gilt; Valley of the Meuse; about 1160-70 (9)
30. "Aaron," plaque; champlevé enamel and copper-gilt; Valley of the Meuse; 1160-70 (9)
31. "St. James and St. John," plaque; champlevé and copper-gilt; School of Godefroi de Claire; Valley of the Meuse; about 1160-70 (9)
32. Plaque, spandrel-shaped, probably from a shrine; champlevé enamel and copper-gilt; Cologne 1170-80 (9)
33. Colonnette, from a chasse; champlevé enamel and copper-gilt; Cologne or Valley of the Meuse; second half 12th century (13)
34. Colonnette, from a chasse; champlevé enamel and copper-gilt; Cologne or Valley of the Meuse; second half 12th century (13)
35. Plaque, from a shrine; champlevé enamel and copper-gilt; Valley of the Rhine; 12th century (10), J. H. Wade Collection
36. Casket, reliquary; champlevé enamel and copper-gilt; Lüneburg; 12th century (38)
37. "Christ Blessing," plaque; champlevé enamel and copper-gilt; Valley of the Rhine; 13th century (37)
38. Plaque; champlevé enamel and copper-gilt; South Germany (now Switzerland); 14th century (38)

12TH-14TH CENTURY: FRANCE

39. Winged ox and winged lion, two appliqués, symbols of St. Luke and St. Mark; champlevé enamel and copper-gilt; Limoges; late 12th century (24)
40. St. Mark, probably from a shrine; champlevé enamel and bronze-gilt; Limoges; late 12th century (23)
41. *Châsse* without enamel; copper, once champlevé enamelled and probably gilt; Limoges; late 12th or early 13th century (24)
42. *Châsse;* champlevé enamel and copper and bronze-gilt; Limoges; early 13th century (9)
43. *Châsse;* champlevé enamel and copper-gilt; Limoges; early 13th century (44)
44. End from a *châsse;* champlevé enamel and copper partly gilt; Limoges; mid-13th century (23)
45. Terminal plaque from a cross; champlevé enamel and copper-gilt; Limoges; mid-13th century (24)
46. Plaque, from a *châsse;* champlevé enamel and copper-gilt; Limoges; mid-13th century (24)
47. Eucharistic dove; champlevé enamel, copper and bronze-gilt; Limoges; 1250-75 (5)
48. Gemellion; champlevé enamel and copper once gilt; Limoges; second half 13th century (13)
49. Gemellion; champlevé enamel and copper once gilt; Limoges; second half 13th century (32)
50. Candlestick, with the arms of France, and of Bernard, Comte de Turenne and his wife Marguerite; champlevé enamel and copper-gilt; Limoges; late 13th century (38)
51. Pendant; champlevé and copper; France; late 13th century (23)
52. Pastiche, including fragments from a *châsse;* champlevé enamel, semi-precious stones, cameos, and copper-gilt; enamel, Limoges, mid-13th century. This object was assembled in the 19th century using fragments from various earlier periods (24)
53. Plaque; cloisonné enamel, semi-precious stones, copper and silver-gilt; enamel, Paris, about 1300 (24)
54. Chatelaine hook; champlevé enamel and silver; France; 14th century (24)

13TH-14TH CENTURY: SPAIN

55. Two plaques, probably from a belt; cloisonné enamel and gold; Hispano-Moresque; 13th-14th century (10), J. H. Wade Collection

56. "St. Luke," appliqué; champlevé enamel and copper-gilt; Spain; first half 13th century (23)
57. "Christ in Majesty," plaque, from a châsse; champlevé enamel and copper-gilt; Spain; 14th century (24)
58. Vessel; champlevé enamel and copper partly gilt; provenance and date unknown; perhaps Hispano-Moresque, 13th century (5)

14TH-16TH CENTURY: ITALY

59. Cross, with Virgin and St. John; champlevé enamel and copper-gilt; Florence; 14th century (13)
60. Pax, with arms of the Benucci; verre fixé and painted enamel on glass, silver-gilt; Siena; 15th century (26)
61. Chalice; painted enamel, silver-gilt; Italy; 15th century (38)
62. Pendant badge, arms of the Sforza; basse-taille enamel, silver-gilt; North Italy; 15th century (4)
63. St. Luke, St. Paul, and St. Mark, triple plaque; painted enamel on silver; Italy; second half 15th century (24)
64. Christ bearing the cross, plaque; encrusted enamel, copper-gilt; Italy; late 15th-early 16th century (24)
65. Cup and cover; painted enamel on copper; Venice; late 15th-early 16th century (9)
66. Reliquary; painted enamel on copper, glass; Venice; 16th century (5)
67. St. Paul, plaque, basse-taille enamel on gold; Florence; 16th century (24)
68. Sweetmeat bowl; painted enamel on copper, silver-gilt; Italy; 16th century (26)
69. Agnus Dei (?), pendant; encrusted enamel, gold, baroque pearl, stones; Italy; 16th century (19)
70. Terminal figure, a soldier; encrusted enamel, gold; Italy; 16th century (23)
71. Pendant, with cameo; encrusted enamel, gold, cameo, stones; Italy; 16th century (4)
72. Pendant, figure mounted on a lion; encrusted enamel, gold, pearls, stones; Italy; 16th century (4)
73. Pendant, quatrefoil enclosing a cross; encrusted enamel, gold, stones, pearl; Italy; 16th century (5)
74. The Assumption of the Virgin (?); encrusted enamel, gold, baroque pearl; Italy; late 16th century (5)
75. "Pelican in her Piety," pendant; encrusted enamel, gold, pearls, rubies; Italy or Germany; 16th century (5)
76. Crucifix, pendant; encrusted enamel, gold; Italy; 18th century (6)

16TH-18TH CENTURY: FRANCE

77. Pax; painted enamel on copper, and bronze-gilt; France or North Italy; late 15th or early 16th century (4)
78. St. Barbara, pendant; basse-taille enamel, gold; France or Flanders; early 16th century (9)
79. Diana on a stag, pendant; encrusted enamel on gold, and stones; France (?); 16th century (38)
80. Mirror frame; champlevé enamel and copper-gilt; France (?); second half 16th century (24)
81. Pair of salt cellars; painted enamel, grisaille and color, on copper; attributed to Couly Noylier (about 1468 – died after 1531); Limoges; first third 16th century (24)
82. Roundel; St. Christopher carrying the Christ Child; painted enamel on copper; Nardon Pénicaud (1470-1542/3); Limoges; late 15th-early 16th century (37)
83. Triptych, center Nativity, left wing Gabriel, right wing The Virgin; painted enamel on copper, bronze-gilt; Jean I. Pénicaud, (fl. 1510-40); early 16th century (28)
84. Folding book, Francis I on clasp; painted enamel, grisaille, on copper, bronze-gilt; Jean Pénicaud II (1510 – after 1576); Limoges; mid-16th century (24)
85. Labors of the Seasons, three plaques; Haymaking, Ploughing, Cutting Wood; painted enamel on copper; Jean Pénicaud II (1510 – after 1576); Limoges; mid-16th century (24)
86. Virgin and Child, medallion; painted enamel, grisaille, on copper; Jean Pénicaud III; Limoges; second half 16th century (24)
87. Casket, scenes from story of David and Solomon; painted enamel on copper, bronze-gilt; atelier of the Pénicauds; Limoges; 16th century (9)
88. Mary Magdalene, plaque; painted enamel on copper; Léonard Limousin (about 1505-1577); Limoges; mid-16th century (32)
89. Casket, scenes from story of Hercules; painted enamel on copper; François Limousin (fl. 1564-88); Limoges; 1579 (24)
90. Pair of candlesticks; painted enamel, grisaille, on copper; I. L. (Jean Limousin I? about 1561-1610); Limoges; second half 16th century (5)
91. The Virgin with emblems of litanies, plaque, after a plate in book of hours, (1505) by Thielmann Kerver; painted enamel on copper; Pierre Reymond, (about 1513-84); Limoges; mid-16th century (32)
92. Six plaques illustrating the Passion of Christ; Ecce Homo, Flagellation, Bearing the Cross, The Crucifixion, Descent from the Cross, The Resurrection (the last is not shown); painted enamel, grisaille, on copper; Pierre Reymond (about 1513-1584); Limoges; 1542 (13)
93. Cup and cover; painted enamel, grisaille, on copper; Pierre Reymond (about 1513-1584); Limoges; 1552 (4)
94. Ewer stand, with five scenes from Genesis after Lucas van Leyden; painted enamel, grisaille, on copper; Pierre Reymond (about 1513-1584); Limoges; 1557 (10), Gift of Robert A. Weaver

95. Plate, Joseph reveals himself to his brothers; painted enamel, metallic foil, copper; I. C. (Jean de Court or Jean Courtois); Limoges; second half 16th century (10), Bequest of William G. Mather
96. Orpheus attacked by the Maenads, plaque; painted enamel on copper; Suzanne de Court (fl. 1600); Limoges; late 16th-early 17th century (24)
97. "Aeneas persuades Anchises, Creusa, and Ascanius to flee from Troy," plaque, after plate in 1502 edition of Aeneid illustrated by Johann Grüninger of Strasbourg; painted enamel on copper; Limoges; early 16th century (38)
98. Venus (?), mirror back; painted enamel on copper; Limoges; mid-16th century (5)
99. Two lovers, plaque; painted enamel on copper; Limoges; mid-16th century (5)
100. Roundel; painted enamel on copper; Northern France (?); 16th century (5)
101. "De Occasion Suis," plaque; painted enamel, grisaille, on copper; France; 16th century (13)
102. St. Mathias, plaque; painted enamel, grisaille, on copper; France; 16th century (13)
103. Mirror back; en résille enamel, gold, rock crystal; France; second half 16th century (10), J. H. Wade Collection
104. Bénitier; painted enamel on copper, silver-gilt; Limoges; early 17th century (37)
105. Salt cellar, with Apollo, Jupiter, Juno, Diana, Mercury, Mars, Minerva; painted enamel on copper; Limoges; 17th century (38)
106. Brush back with motto "Mare Lascitur Fortitudo"; painted enamel on copper; France; 17th century (24)
107. St. Nicholas, plaque; painted enamel on copper; Jacques II Laudin (about 1663-1729); Limoges; late 17th-early 18th century (24)
108. Reticule, with plaque showing beheaded female saint; painted enamel on copper, silk; France; early 18th century (24)
109. Watchcase; encrusted and painted enamel, gold; France; mid-18th century (36)
110. Watch and chatelaine; painted enamel, gold; Paris; mid-18th century (36)
111. Snuff box, with six genre and still life scenes; painted enamel, miniature painting, gold; Eloy Brichard, (fl. mid-18th century); Paris; 1759 (36)
112. Plaque, from a box, after Boucher, "La leçon agréable"; miniature painting on enamel, gold; France; late 18th century (24)
113. Pair of cloak pins, probably illustrating first balloon flight across the English Channel; miniature painting on enamel over transfer print, copper, brass; France, about 1784 (24)

16TH-18TH CENTURY: GERMANY

114. Finger ring, skull with concealed compartment; encrusted enamel, gold; South Germany; 16th century (4)
115. Pendant, with amethyst; encrusted enamel, gold, stone; South Germany; late 16th century (19)
116. "Faith," plaque; painted enamel on gold; Germany; early 17th century (4)
117. Cup and saucer; painted enamel, silver; Augsburg; early 18th century (4)
118. "Madonna in a Bower," pendant; encrusted and painted enamel, silver, paste; Germany; 17th century (4)
119. Buckle; encrusted and painted enamel, paste, silver; Germany; 17th century (4)
120. Knife and fork; encrusted and painted enamel, gold, silver-gilt; South Germany; mid-17th century (4)
121. Tankard; painted enamel, silver-gilt; Bartholemaeus Pfister (d. 1696); Nuremberg; second half 17th century (5)
122. The Four Seasons, four roundels; painted enamel on copper; Germany; about 1680 (22)
123. Pair of beakers; painted enamel on copper, silver-gilt; workshop of Pierre Froméry (1659-1738); Berlin; early 18th century (35)
124. Knife and fork; painted enamel on gold, silver; Dresden; early 18th century (4)
125. Two decorative plaques; encrusted and painted enamel, silver; South Germany; 18th century (4)
126. Plaque, from a box; painted enamel on copper, gold; Christian Friedrich Heroldt (1700-1779); Froméry workshop, Berlin; mid-18th century (35)
127. Box; painted enamel; Germany, perhaps Berlin; mid-18th century (38)
128. Emperor Joseph II of Austria; miniature portrait on enamel, copper; signed "Pfarr"; Germany or Austria; second half 18th century (4)
129. Pair of wall sconces; painted enamel on copper, bronze-gilt; Vienna, Austria; 1780-1790 (27)

17TH-18TH CENTURY: ENGLAND, THE NETHERLANDS AND OTHER

130. Candlestick; champlevé enamel, brass; Surrey (?), England; second half 17th century (35)
131. Needle-sheath; champlevé enamel, brass; England (?), Bavaria (?); second half 17th century (24)
132. Alderman Stephen Theodore Janssen, wearing collar and robes of the Lord Mayor of London; miniature portrait over transfer print on enamel, copper; pinchbeck frame; York House, Battersea, London, England; 1754 (35)
133. Box, in shape of sparrow; painted on enamel, copper, brass; London (?), England; 1750-1760 (12)
134. Watchcase; en plein enamel, gold; London, England; mid-18th century (24)
135. Round plaque, cloak pin (?); painted enamel over transfer print, copper, brass; England; mid-18th century (12)

136. Vinaigrette and scent bottle; painted enamel, miniature painting, copper, brass; Bickley workshop (?); South Staffordshire, England; 1760-1776 (12)
137. Salt cellar; painted enamel on copper; South Staffordshire, England; 1760-1780 (24)
138. Pair of tea caddies and sugar canister; painted enamel on copper, raised gilding; South Staffordshire, England; about 1775 (35)
139. Oval box, portrait in fancy dress; miniature portrait, gold, horn; initial "S"; England; 1770-1779 (12)
140. Scent bottle; encrusted and painted enamel on glass; Bristol, England; 1770-1780 (35)
141. "Scarlet Strawberries!," oval box, after The Cries of London; miniature painting, copper; South Staffordshire (?), England; last third 18th century (12)
142. Spy-glass; en plein enamel, miniature painting, gold; Augustus Toussaint (fl. 1775-1788); England and France, (painting); 1770-1790 (36)
143. Spy-glass; painted enamel, copper-gilt; Bilston, England; about 1780 (22)
144. "A Trifle from New York," two patch box covers; painted enamel on copper; England (?); late 18th century (44)
145. "Be Happy," box, two hearts on lid inscribed "A" and "P"; painted enamel, copper, brass; England; late 18th-early 19th century (12)
146. Two knives; painted enamel, gold, steel; signed "Gtien van Banchem"; The Netherlands; early 17th century (4)
147. Knife and fork; encrusted and painted enamel, gold; The Netherlands; 17th century (38)
148. Knife and fork; encrusted and painted enamel on copper, steel, stone; The Netherlands; second half 17th century (35)
149. Charles XII of Sweden, brooch; miniature portrait on enamel, gold; Sweden; late 18th century (3)
150. Brooch, two lovers in rustic setting; miniature painting on enamel, silver-gilt; Geneva, Switzerland; late 18th-early 19th century (3)

17TH-20TH CENTURY: RUSSIA AND THE NEAR EAST

151. Assumption of the Virgin, plaque; champlevé enamel and copper; Russia; 17th century (38)
152. Crucifix and Christ blessing, icon; painted enamel on silver; Usolsk; 17th century (38)
153. Bowl; painted enamel, silver-gilt; Usolsk; about 1690 (38)
154. Bowl; painted enamel on copper, silver-gilt; Moscow; late 17th century (17)
155. Box; champlevé enamel on silver; Moscow; late 17th century (17)
156. Pair of portraits, Peter the Great and his Czarina Catherine; miniature portraits on gold; Russia; early 18th century (4)
157. Cup, with gold coin of 1756 in base; plique-à-jour enamel, gold; Russia; 19th century (?) (38)
158. Badge and collar of the order of St. Andrew; encrusted and painted enamel on gold; J. W. Keibel; St. Petersburg; about 1840 (36)
159. Egg-shaped purse; cloisonné enamel and silver-gilt; Russia; 19th century (12)
160. Bottle and saucer; painted enamel, brass-gilt; Russia; 19th century (38)
161. Sherbet cup, plate, and spoon, with arms of St. Petersburg, Moscow, and Kazan on knop, from a set; en plein and plique-à-jour enamel, silver-gilt; Fedor Rückert; Moscow; late 19th century (36)
162. Tankard; encrusted, champlevé, cloisonné, painted, and plique-à-jour enamel, silver-gilt; Ovtchinnikov; Moscow; 1890 (36)
163. Cup and saucer; filigree plique-à-jour enamel, silver-gilt; Ovtchinnikov; Moscow; about 1900 (36)
164. View of Hampton Court Palace; miniature painting, gold, nephrite, ivory; the firm of Peter Carl Fabergé; St. Petersburg; about 1900 (36)
165. Oval box; en plein enamel on silver, silver-gilt; the firm of Peter Carl Fabergé; St. Petersburg; about 1900 (36)
166. Imperial Easter egg; painted enamel, gold, stones; Henrik Wigström (1862 – about 1930) of the firm of Peter Carl Fabergé; St. Petersburg; 1907 (38)
167. Plaque; painted enamel, gold, pearls; Persia; 19th century (?) (16)
168. Incense burner; champlevé enamel on bronze; Near East; 19th century (38)

16TH-20TH CENTURY: THE ORIENT

169. Krishna, The Divine Herdsman, pendant; champlevé enamel, gold; Rajputana, India; late 16th century (10), J. H. Wade Fund
170. Finger ring, in form of six fish; encrusted enamel, gold; Jaipur, India; 18th century (10), Gift of Mr. and Mrs. J. H. Wade
171. Finger ring, in form of six fish; encrusted enamel on gold; Jaipur, India; 19th century (?) (12)
172. Armlet; encrusted enamel, silver-gilt, pearls, stones; Jaipur, India; late 18th-early 19th century (10), Gift of Mr. and Mrs. J. H. Wade
173. Octagonal box; encrusted enamel, gold, stones; Jaipur, India; late 18th-early 19th century (10), Gift of Mr. and Mrs. J. H. Wade
174. *"Hsiang Lu,"* incense burner; cloisonné and champlevé enamels, copper and bronze; probably Peking, China; cast mark, "Ta Ming Hsüan-Tê nien chih" (made in the reign of Hsüan-Tê [1425-1435] of the Great Ming dynasty) (8)
175. Vase; cloisonné enamel, and copper-gilt; China; Hsüan-Tê mark, 15th century (?) (7)

176. Vase; cloisonné enamel and bronze; China; Ching T'ai mark (1450-1456) (33)
177. *Hu,* vessel; cloisonné enamel, bronze; China; probably late Ming; 17th century (6)
178. *Chi-Lin,* unicorn; cloisonné on copper-gilt; China; K'ang Hsi (1662-1722) (43)
179. Lower part of a small box; painted enamel on copper; China; probably Canton; Ch'ien Lung (1736-1795) (24)
180. Bowl; painted enamel on copper; Peking, China; Ch'ieng Lung mark (1736-1795) (7)
181. Sweetmeat box and cover; painted enamel on copper; Peking, China; Ch'ien Lung mark (1736-1795) (7)
182. Horse, with detachable trappings; cloisonné enamel, brass-gilt; China; 18th century (24)
183. Bowl; painted enamel on copper-gilt; Peking, China; 18th century (18)
184. Double flask, "Sun and Moon"; cloisonné enamel and copper; China; late 18th century (7)
185. Pair of roosters; cloisonné and bronze-gilt; China; probably Ch'ia Ching (1796-1821) (8)
186. Dish, one of a set; painted enamel on copper; Canton, China; 18th century (23)
187. Plate; painted enamel on copper; Canton or Swatow, China; 18th century (23)
188. Basin; painted enamel on copper; Canton, China; 19th century (6)
189. *Ju-I,* presentation scepter with symbols for happiness, luck, longevity, etc.; cloisonné enamel, bronze-gilt; China; 19th century (12)
190. Vase, in imitation of porcelain; cloisonné enamel, bronze; China; Ch'ing (1644-1912) (6)
191. Votive figure with lotus stand; cloisonné (?) enamel on bronze-gilt; Japan; late 18th or early 19th century (8)
192. Lotus bowl; cloisonné enamel and bronze; Japan; probably 19th century, Tokugawa (6)
193. Salver; cloisonné enamel and bronze; Japan; 19th century, probably Tokugawa (6)
194. Stud; cloisonné enamel, gold; Japan; 19th century (12)

19TH-20TH CENTURY: WESTERN EUROPE

195. Box; en plein enamel on gold; mark "AJ"; York, England; 1805-1806 (12)
196. The Honorable Carolyn Gailer, after Reynolds; miniature portrait, copper; Henry Bone, (1755-1834); England; early 19th century (4)
197. The Lesser George, badge, of The Most Noble Order of The Garter; en plein enamel, gold; England; 1800-1830 (36)
198. Zarf, holder for coffee cup; encrusted enamel, gold, stones; probably Geneva, Switzerland; about 1830 (16)
199. Zarf, holder for coffee cup; miniature painting, gold; Switzerland; early 19th century (38)
200. Pendant watchcase; painted enamel, gold, pearls, chips; France or Switzerland; early 19th century (24)
201. Napoleon; painted enamel on copper; France; mid-19th century (29)
202. Wellington; painted enamel on copper; France; mid-19th century (29)
203. Bellona, plaque, contemporary duplicate of one from a series made for the cradle of the Prince Imperial; painted enamel, grisaille, on copper; A. Serre and Ferdinand Barbédienne (1810-1892); Sèvres, France; about 1856 (38)
204. Brooch, in form of a snake; encrusted enamel on gold, agate; France; mid-19th century (12)
205. Bangle, bracelet; encrusted enamel on gold; France; mid-19th century (12)
206. Scent bottle, scene after Fragonard; miniature painting, copper, gold; France or England; 1850-1860 (6)
207. Parure: necklace, bracelet, brooch, pair of earrings; encrusted enamel, gold, pearls, paste; France; 1850-1870 (6)
208. Watchcase, in form of a butterfly; painted enamel, gold; Paris; 1850-1870 (24)
209. Brooch, after Boucher, "La leçon agréable"; miniature painting, gold, pearls; France; about 1870 (12)
210. Brooch, in form of five blackamoors' heads; encrusted enamel on silver; Vienna, Austria; 1850-1860 (25)
211. Ewer and stand; painted enamel, silver-gilt; Austria; after 1872 (24)
212. Pendant, eagle; encrusted enamel, gold, pearls, stones; Italy; 19th century (16)
213. Pendant, Virgin and Child; encrusted enamel, gold; Spain; 19th century (6)
214. Pendant, rose bud; encrusted enamel, gold, rock crystal; France; about 1900 (12)
215. "Love and Rainbow," plaque; painted enamel; Alexander Fisher; England; early 20th century (13)
216. Angel, plaque; painted enamel on copper; Mrs. Ernestine Mills; England; early 20th century (13)
217. Centaur, plaque; cloisonné enamel on copper, silver; Florence Nesmith; England; early 20th century (11)
218. "The Raleigh Ship," casket; painted enamel on copper, silver; Omar Ramsden; London, England; early 20th century (11)
219. Bowl; plique-à-jour enamel, gold; Fernand Thesmar, (1843-1912); France; 1903 (24)
220. Cup; plique-à-jour enamel, gold; Fernand Thesmar, (1843-1912); France; 1903 (38)
221. Bowl; painted enamel on copper; Maria Likarz; Vienna, Austria; 1917 (22)
222. Casket, with scenes from the story of Undine; painted enamel on copper, silver; Ruth Raemisch; Germany; first third 20th century (24)

223. General Lafayette at the anniversary of the Battle of Yorktown, October 19th, 1824, after Scheffer; miniature portrait, copper; William Birch, (1755-1834); Philadelphia, Pennsylvania; about 1824 (44)
224. Plaque, an equestrian figure; champlevé enamel, copper-gilt; Edward F. Caldwell; New York; first quarter 20th century (13)
225. Casket, humidor, in the manner of Limoges 13th century; champlevé enamel, copper-gilt, bronze-gilt; engraved, "E. F. Caldwell & Co. New York"; New York; about 1925 (27)
226. Triptych, Nativity; cloisonné enamel on silver; Arthur Nevill Kirk; United States; first third 20th century (11)
227. "Golden Fishes," tray; painted enamel on copper; Virginia Dudley, (1913-); Rising Fawn, Georgia; mid-20th century (15)
228. "Primeval Patterns," trays, two of set of three; painted enamel on copper; Virginia Dudley, (1913-); Rising Fawn, Georgia; mid-20th century (15)
229. "Childhood Impressions," plaque; painted enamel on copper; Maureen Wicke; Grosse Point Farms, Michigan; mid-20th century (39)
230. "Fish Number Five," appliques on driftwood; painted enamel on copper, wood; Maureen Wicke; Grosse Point Farms, Michigan; mid-20th century (39)
231. "Geometry," plaque; painted enamel on copper, wire; Maureen Wicke; Grosse Point Farms, Michigan; mid-20th century (39)
232. "Argument in a Limoges Market Place," plaque; painted enamel on silver and copper; Kenneth Francis Bates, (1904-); Cleveland, Ohio; 1944 (10) The Dudley P. Allen Collection
233. "My Trip to Pittsburgh," plaque; painted enamel on silver; Kenneth Francis Bates, (1904-); Cleveland, Ohio; 1945 (10) The Dudley P. Allen Collection
234. "Message," plate; painted enamel on copper, gold, silver; Kenneth Francis Bates, (1904-); Cleveland, Ohio; 1945 (2)
235. Cross, scenes from the Life of Christ; painted enamel on silver; Charles Bartley Jeffery, (1910-); Cleveland, Ohio; 1945 (10) The Dudley P. Allen Collection
236. "Heads of Christ and Mary," diptych; cloisonné enamel on silver and gold foil, rosewood; Charles Bartley Jeffery, (1910-); Cleveland, Ohio; 1953 (21)
237. Bowl number one; painted enamel on copper, silver foil; Charles Bartley Jeffery, (1910-); Cleveland, Ohio; 1953 (21)
238. Bowl number two; painted enamel on copper, gold foil, silver foil; Charles Bartley Jeffery, (1910-); Cleveland, Ohio; 1953 (21)
239. "Nereid," plaque; painted enamel on copper; Doris Hall, (1907-); Cleveland, Ohio; 1948 (10) The Rorimer-Brooks Anniversary Award, 1948
240. "Cycle of Life," plaque; painted enamel on copper; H. Edward Winter, (1908-); Cleveland, Ohio; 1948 (10) Gift of Mrs. B. P. Bole
241. Bowl; painted enamel on copper; H. Edward Winter, (1908-); Cleveland, Ohio; 1953 (10) Gift of The Cleveland Art Association
242. Wall Cross, scenes from the Life of Christ; painted enamel on copper, pewter; Karl Drerup, (1904-); Campton, New Hampshire; 1953 (14)
243. "St. Michael," bowl; painted enamel on copper, pewter; Karl Drerup, (1904-); Campton, New Hampshire; 1953 (14)
244. "Profile," plaque; painted enamel on copper, sgraffito; Jackson Woolley; San Diego, California; 1953 (41)
245. "Queen," plaque; painted enamel on copper, sgraffito; Ellamarie Woolley; San Diego, California; 1954 (41)
246. "Carnival," plaque; painted enamel on copper; Arthur Ames; Claremont, California; 1954 (1)
247. "Night Fragment," plaque; painted enamel; Jean Ames, (1905-); Claremont, California; 1954 (1)
248. "Fisherman," plaque; painted enamel on copper, sgraffito; Barney M. Reid; San Diego, California; 1954 (30)
249. Plaque; painted enamel on copper, rosewood; Kathrine Winckler; East Lansing, Michigan; 1954 (40)
250. Plaque; painted enamel on copper, amaranth; Kathrine Winckler; East Lansing, Michigan; 1954 (40)

Selected References from The Cooper Union Libraries

GENERAL

Bates, Kenneth F. Enameling: principles and practice. Cleveland, World Pub. Co., 1951.

Burlington Fine Arts Club. Catalogue of a collection of European enamels from the earliest date to the end of the XVII. century. London, 1897.

Cunynghame, Sir Henry H. European enamels. New York, Putnam, 1906.

Davenport, Cyril. Miniatures, ancient and modern. London, Methuen, 1907. "Enamels," pp. 133-156.

Garnier, Édouard. Histoire de la verrerie et de l'émaillerie. Tours, Mame, 1886.

Marquet de Vasselot, J. J. Bibliographie de l'orfèvrerie et de l'émaillerie française. Paris, Picard, 1925.

Molinier, Emile. Dictionnaire des émailleurs depuis le moyen âge jusqu'à la fin du XVIIIe siècle. Paris, Rouam, 1885.

ANCIENT AND ORIENTAL

Coomaraswamy, Ananda K. An Indian enamel. *Boston Museum Bulletin*, v. 38, pp. 23-28, April, 1940.

Hildburgh, Walter L. Chinese painted enamels with European subjects. *Burlington Magazine*, v. 79, pp. 78-89, Sept. 1941.

Jacob, Sir Samuel S., and Hendley, T. H. Jeypore enamels. London, Griggs, 1886.

Rienaecker, Victor G. R. Chinese cloisonné. *Apollo*, v. 48, pp. 42-43 and 53-55, Aug. and Sept. 1948.

MEDIEVAL

Belin de Ballu, Eugène. Collections et monuments byzantins en U.R.S.S. *Mouseion*, v. 49-50, pp. 141-198, 1940.

Boinet, Amédée. Exhibition of Limousin enamels at the museum of Limoges. *Connoisseur*, v. 122, pp. 75-82, Dec. 1948.

Botkin, M. P. Sobranie M. P. Botkina. St. Petersburg, 1911.

Breck, Joseph. Notes on some Mosan enamels. *Metropolitan Museum Studies*, v. 1, pp. 81-94, 1928.

Bunt, Cyril G. E. An important group of Byzantine enamels. *Connoisseur*, v. 132, pp. 104-103, Nov. 1953.

Gauthier, Marie Madeleine. Émaux champlevés des XII-XIIIe siècles. Paris, de Prat, 1950.

Goetz, Oswald. Medieval enamels and metalwork in the Buckingham collection. *Chicago Art Institute Bulletin*, v. 38, pp. 105-112, Dec. 1944.

Lansing, Ambrose. Masterpieces of enameling. *Metropolitan Museum Bulletin*, v. 35, pp. 99-103, May, 1940.

Milliken, William M. European enamels presented by Robert A. Weaver. *Cleveland Museum Bulletin*, v. 27, pp. 149-154, Dec. 1940.

Ostoia, Vera K. Late medieval plique-à-jour enamel: a Swiss 16th century plaque. *Metropolitan Museum Bulletin*, n.s. v. 4, pp. 78-80, Nov. 1945.

Rorimer, James J. A 12th century Byzantine enamel. *Metropolitan Museum Bulletin*, v. 33, pp. 244-246, Nov. 1938.

Schlunk, Helmut. Crosses of Oviedo: the problem of the enamels. *Art Bulletin*, v. 32, pp. 105-110, June, 1950.

RENAISSANCE

Phillips, John G. Two Limoges candlesticks. *Metropolitan Museum Bulletin*, v. 34, pp. 138-140, June, 1939.

Raggio, Olga. Decorative portraits by Léonard Limousin. *Metropolitan Museum Bulletin*, n.s. v. 10, pp. 96-105, Nov. 1951.

Reed, Herbert. A Pénicaud masterpiece: Limoges enamel triptych. *Burlington Magazine*, v. 57, pp. 278-284, Dec. 1930.

Ross, Marvin C. Notes on enamels by Pierre Reymond. *Walters Art Gallery Journal*, v. 2, pp. 77-103, 1931.

Swarzenski, Georg. A masterpiece of Limoges: relief in gilded copper with champlevé enamels representing the Baptism of Christ. *Boston Museum Bulletin*, v. 49, pp. 17-25, Feb. 1951.

17TH AND 18TH CENTURIES

Beard, Charles R. Surrey enamels of the 17th century. *Connoisseur*, v. 88, pp. 219-229, and v. 90, pp. 25-26, Oct. 1931 and July 1932.

Clouzot, Henri. Dictionnaire des miniaturistes sur émail. Paris Morancé, 1924.

Hill, Henry and Sidney. Antique gold boxes. New York, Abelard, 1953.

Honey, William B. New light on Battersea enamels. *Connoisseur*, v. 89, pp. 82-89 and 164-170, Feb.-March 1932.

Hughes, Bernard. Battersea and Bilston enamels. *Antiques*, v. 16, pp. 29-32, July 1929.

Paris. Musée national du Louvre. Les émaux de Petitot au Musée imperial du Louvre. Paris, Blaisot, 1862-64. 2 v.

Victoria and Albert Museum, South Kensington. Catalogue of English porcelain, earthenware, enamels and glass collected by Charles Schreiber and the Lady Charlotte Elizabeth Schreiber. London, 1924. 3 v. "Enamels and Glass" by Bernard Rackham, vol. 3.

19TH AND 20TH CENTURIES

Bainbridge, Henry C. Peter Carl Fabergé. New York, Batsford, 1949.

Brockway, John L. William Birch, his American enamel portraits. *Antiques*, v. 24, pp. 94-96, Sept. 1933.

Moran, J. Spenser. Rising Faun enamels. *Craft Horizons*, v. 14, pp. 26-31, Feb. 1954.

Snowman, A. Kennett. The art of Carl Fabergé. London, Faber, 1953.

Watson, E. W. and Guptill, A. L. Edward Winter opens up new decorative vistas. *American Artist*, v. 11, pp. 38-41, Sept. 1947.

WHITNEY N. MORGAN

Pres.

CONTRIBUTORS

To the Exhibition

Jean and Arthur Ames (1)

Kenneth Francis Bates (2)

Mr. and Mrs. Michel Benisovich (3)

The Blumka Gallery (4)

Leopold Blumka (5)

The Brooklyn Museum (6)

C. T. Loo, Inc., Frank Caro, Successor (7)

Ralph M. Chait (8)

The Art Institute of Chicago (9)

The Cleveland Museum of Art (10)

The Museum of The Cranbrook Academy of Art (11)

The Cooper Union Museum (12)

The Detroit Institute of Arts (13)

Karl Drerup (14)

Miss Virginia Dudley (15)

Raphael Esmerian (16)

Leon Grinberg (17)

Mr. and Mrs. Nathan V. Hammer (18)

John Davis Hatch, Jr. (19)

Hans Huth (20)

Charles Bartley Jeffery (21)

Klejman Gallery (22)

Mathias Komor (23)

The Metropolitan Museum of Art (24)

Mrs. Charles F. Morgan (25)

The Pierpont Morgan Library (26)

A. R. Nesle (27)

The Philadelphia Museum of Art (28)

The Art Museum, Princeton University (29)

Barney M. Reid (30)

Abris Silberman (31)

Raphael Stora (32)

Tonying and Company (33)

The University Museum, University of Pennsylvania (34)

Irwin Untermyer (35)

A La Vieille Russie (36)

The Wadsworth Atheneum (37)

The Walters Art Gallery (38)

Miss Maureen Wicke through The Little Gallery, Birmingham, Michigan (39)

Miss Kathrine Winckler (40)

Ellamarie and Jackson Woolley (41)

The Worcester Art Museum (42)

Edgar Worch (43)

Yale University Art Gallery (44)